In the Claims:

Please cancel claims 6 and 39-44, without prejudice to claiming the subject matter of these claims in one or more other patent applications.

Please amend claims 1, 7, 18, 23-26, 51, and 69 to read follows. A "**Marked-Up Copy of Claims, as Amended**" is also enclosed, wherein text added to the claims is underlined and text deleted from the claims is ~~struck through~~. For the Examiner's convenience, the Applicants have also enclosed a "**Clean Copy of Claims, as Amended**" in which all of the pending claims are listed in an order that the Applicants believe would be appropriate for issue.

Please amend claims 1, 7, 18, 23-26, 51, and 69 to read follows.

~~1~~. (Twice Amended) A method of obtaining a cell population enriched for long-term repopulating human hematopoietic stem cells (HSCs), the method comprising isolating hematopoietic cells from a human hematopoietic tissue and separating cells that express KDR on their surface (KDR^+ cells) from cells that do not express KDR on their surface using a reagent that specifically binds with KDR, thereby obtaining a KDR^+ cell population that is enriched for ~~long-term repopulating~~ HSCs.

~~6.~~ 7. (Twice Amended) The method of claim 1, wherein the reagent is an antibody.

~~18~~. (Twice Amended) A method of preparing long-term repopulating human HSCs, the method comprising isolating hematopoietic progenitor cells (HPCs) from a human hematopoietic tissue and separating HPCs that express KDR on their surface (KDR^+ HPCs) from HPCs that do not express KDR on their surface using a reagent that specifically binds with KDR, whereby the isolated KDR^+ HPCs are enriched for long-term repopulating HSCs.

~~16~~ ~~16.~~ ~~23~~. (Twice Amended) The method of claim ~~18~~, further comprising isolating KDR^+ HPCs that do not express a late marker on their surface using an antibody specific for the late marker.

24. (Twice Amended) The method of claim 18, wherein the HPCs are isolated using an antibody that is specific for an early marker.

25. (Twice Amended) The method of claim 18, further comprising isolating the long-term repopulating HSCs from other HPCs using an antibody that is specific for a one of an early marker and a late marker.

26. (Twice Amended) The method of claim 76, wherein the early marker is CD34.

51. (Twice Amended) A method of expanding long-term repopulating human HSCs, the method comprising isolating HSCs that express KDR on their surface (KDR^+ HSCs) from a human hematopoietic tissue using a reagent that specifically binds with KDR and incubating the HSCs with vascular endothelial growth factor to expand the HSCs.

69. (Twice Amended) A method of isolating a stem cell capable of giving rise to at least one of a muscle cell, a hepatic oval cell, a bone cell, a cartilage cell, a fat cell, a tendon cell, and a marrow stroma cell, the method comprising isolating a hematopoietic cell that expresses KDR on its surface from a human hematopoietic tissue using a reagent that specifically binds with KDR, thereby isolating the stem cell.

Please add claims 76-100 as follows.

-- 76. The method of claim 24, wherein the early marker is selected from the group consisting of CD34, Thy-1, c-kit receptor, flt3 receptor, AC133, vascular endothelial growth factor receptor I, vascular endothelial growth factor receptor III, Tie1, Tek, and basic fibroblast growth factor receptor.

77. The method of claim 25, wherein the antibody is specific for a marker selected from the group consisting of CD34, Thy-1, c-kit receptor, flt3 receptor, AC133, vascular

endothelial growth factor receptor I, vascular endothelial growth factor receptor III, Tie1, Tek, basic fibroblast growth factor receptor, CD2, CD3, CD4, CD7, CD8, CD15, CD16, CD19, CD20, CD33, CD38, CD45, CD56, CD71, and glycophorin A.

23. 22.

78. The method of claim 77, wherein the antibody is specific for CD34.

24 23.

79. The method of claim 78, wherein the long-term repopulating HSCs are isolated from other HPCs using a second antibody that is specific for a one of a late marker and an early marker other than CD34.

80. A method of obtaining a cell population enriched for long-term repopulating human hematopoietic stem cells (HSCs), the method comprising isolating hematopoietic cells from a human hematopoietic tissue and separating cells that express KDR on their surface but do not express a late marker on their surface from cells that either do not express KDR on their surface or express a late marker on their surface, the isolation method comprising using a reagent that specifically binds with KDR, thereby obtaining a cell population that is enriched for long-term repopulating HSCs.

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81. The method of claim 77, wherein the long-term repopulating HSCs are isolated from other HPCs by selecting HPCs which express an early marker selected from the group consisting of

> CD34, Thy-1, c-kit receptor, flt3 receptor, AC133, vascular endothelial growth factor receptor I, vascular endothelial growth factor receptor III, Tie1, Tek, and basic fibroblast growth factor receptor

using an antibody that is specific for the early marker.

82. The method of claim 77, wherein the long-term repopulating HSCs are isolated from other HPCs by selecting HPCs which do not express a late marker selected from the group consisting of

CD2, CD3, CD4, CD7, CD8, CD15, CD16, CD19, CD20, CD33,
CD38, CD45, CD56, CD71, and glycophorin A

using an antibody that is specific for the late marker.

83. A method of preparing long-term repopulating human HSCs, the method comprising isolating cells that express KDR on their surface and do not express a first early marker on their surface (KDR^+early^- cells) using, sequentially in either order, an antibody which specifically binds with the first early marker and a reagent which specifically binds with KDR .

84. The method of claim 83, further comprising isolating the long-term repopulating HSCs from the KDR^+early^- cells using an antibody which specifically binds one of a late marker and a second early marker.

85. The method of claim 83, further comprising isolating the long-term repopulating HSCs from the KDR^+early^- cells by isolating cells that do not express a late marker from the KDR^+early^- cells.

86. The method of claim 85, wherein the long-term repopulating HSCs are isolated using an antibody that binds specifically with a late marker selected from the group consisting of CD2, CD3, CD4, CD7, CD8, CD15, CD16, CD19, CD20, CD33, CD38, CD45, CD56, CD71, and glycophorin A.

87. The method of claim 85, comprising isolating KDR^+early^- cells that do not express any late marker of the group consisting of

CD2, CD3, CD4, CD7, CD8, CD15, CD16, CD19, CD20, CD33, CD38, CD45, CD56, CD71, and glycophorin A

from other KDR^+early^- cells.

88. The method of claim 83, wherein the first early marker is CD34.

89. The method of claim 83, wherein the long-term repopulating human HSCs are prepared by isolating $CD34^-$ cells from the tissue using an antibody that binds specifically with CD34, and thereafter separating KDR^+CD34^- cells from other $CD34^-$ cells, whereby the KDR^+CD34^- cells are enriched for the HSCs.

90. The method of claim 89, further comprising separating $CD34^-$ cells that do not express a late marker ($CD34^-late^-$ cells) selected from the group consisting of CD2, CD3, CD4, CD7, CD8, CD15, CD16, CD19, CD20, CD33, CD38, CD45, CD56, CD71, and glycophorin A on their surface from other $CD34^-$ cells, whereby the $CD34^-late^-$ cells are enriched for the HSCs.

91. The method of claim 90, wherein the separation of KDR^+ and KDR^- $CD34^-$ cells is performed prior to separating $CD34^-late^-$ cells from other $CD34^-$ cells.

92. The method of claim 90, wherein the separation of KDR^+ and KDR^- $CD34^-$ cells is performed after separating $CD34^-late^-$ cells from other $CD34^-$ cells.

93. The method of claim 83, wherein the reagent is an antibody.

94. The method of claim 83, wherein the reagent is a polyclonal antibody.